REMARKS/ARGUMENTS

In the November 27, 2006 Office Action, the Examiner rejected claims 15-23 pending in the application. This response asks for reconsideration of pending claims 15-23 and adds new claim 25 for consideration.

Claims 15, 17, 19-21, and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Liu, U.S. Patent No. 5,720,845 (hereafter "Liu") in view of Maloney et al., U.S. Patent No. 7,029,382 (hereafter "Maloney"). In particular, the Examiner states that Liu discloses a workpiece carrier including an integrated pressure control system, and a workpiece carrier which has a carrier housing, a workpiece bladder coupled to the housing, the workpiece bladder having a surface configured to press against the surface of a workpiece, and at least one pressure transducer mounted to the carrier housing for controlling pressure provided to the workpiece bladder. Although the Examiner concedes that Liu fails to disclose a rotary union for connecting electrical lines, an air supply line, and air exhaust lines to the pressure control system, the Examiner contends that Maloney discloses that it is well known in the art to provide a rotary union mounted to a workpiece carrier for communicating stationary supply sources/lines external to the carrier with the carrier and locations on the carrier by allowing the sources/lines to pass therethrough. Accordingly, the Examiner contends that it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Liu apparatus by providing a rotary union mounted to the workpiece carrier for connecting electrical lines, an air supply line, and an air exhaust line to the pressure control system by allowing the lines to pass therethrough as taught by Maloney. Applicants respectfully traverse this rejection.

Contrary to the Examiner's assertions, Maloney fails to disclose a rotary union mounted to a workpiece carrier for controlling pressure provided to a workpiece bladder and/or a plurality of pressurizable zones. Instead, Maloney discloses a rotary union that provides means for coupling pressurized and non-pressurized fluids between a fluid source, such as a vacuum source, which is stationary and non-rotating and a rotatable polishing head wafer carrier assembly. However, Maloney discloses that the rotary union is adapted to mount to the non-rotatable portion of the polishing head and provides a means for confining and continually coupling a pressurized or non-pressurized fluid between a non-rotatable fluid source and a region

of space adjacent to an exterior surface of a rotatable spindle shaft which comprises part of the polishing head. (See Fig. 4 and column 11, lines 11-20). Fig. 4 in the disclosure in Maloney specifically discloses that the non-rotatable portion of the rotary union is connected to the rotatable shaft (see column 11, lines 29-32) and that multiple passageways extend from the exterior shaft surface in the top of the shaft to hollow bores within the spindle shaft. (See column 11, lines 37-40). Unlike Applicants' claimed invention, Maloney fails to disclose mounting a rotary union to a wafer carrier or workpiece carrier. Accordingly, in that neither Liu or Maloney, either alone or in combination, disclose Applicants' claimed element of a rotary union mounted to a workpiece carrier or wafer carrier, Applicants' claimed invention cannot be obvious in view of Liu and Maloney.

Claims 15, 17, and 19-21 stand rejected under 35 U.S.C. 103(a) as being anticipated over Berman et al., U.S. Publication No. 2003/0211811, (hereafter "Berman") in view of Maloney. In particular, the Examiner contends that Berman discloses a workpiece carrier which inherently includes a carrier housing, a workpiece bladder coupled to the housing, the workpiece bladder having a surface configured to press against the surface of a workpiece, and at least one pressure tranducer mounted to the carrier housing for controlling pressure provided to the workpiece bladder. Although the Examiner concedes that Berman fails to disclose a rotary union for connecting electrical lines, an air supply line, and an air exhaust line to the pressure control system, the Examiner contends that Maloney discloses that it is well known in the art to provide a rotary union mounted to a workpiece carrier for communicating stationary supply sources/lines external to the carrier with the carrier and locations on the carrier by allowing the sources/lines to pass therethrough, therefore, the Examiner contends that it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Berman apparatus by providing a rotary union mounted to the workpiece carrier for connecting electrical lines, an air supply line, and an air exhaust line to the pressure control system by allowing the lines to pass therethrough as taught by Maloney. Applicants respectfully traverse this rejection.

As previously stated above, Maloney fails to disclose a rotary union mounted to a workpiece carrier or wafer carrier. Instead, Maloney discloses connecting a rotary union to a spindle shaft of a polishing head to provide multiple passageways for pressurized and non-

pressurized fluids. Berman discloses an adaptable multi-zone carrier having addressable transducers disposed within pressure application zones in a substrate carrier. The addressable transducers are connected to a controller 24 via lines 22. In addition, Berman states that: "One reason why it is preferred that the addressable transducers 18 be digitally selectable is so that fewer lines 22 are required to individually select the addressable transducers 18, and thus the lines 22 do not require much room in the arm 36. This is beneficial because it is desirable to not increase the size of the arm 36 to accommodate a large bundle of lines 22, and also because the substrate carrier 12 preferably rotates on the end of the arm 26, and connection for many lines 22 through the rotating connections would be expensive and complicated." Berman also fails to disclose a rotary union mounted to the carrier to connect one or more pressure transducers with a control board. Accordingly, in that neither Berman or Maloney discloses each and every element of Applicants' claimed invention, mainly a rotary union mounted to a wafer carrier or workpiece carrier, Applicants' claimed invention cannot be obvious in view of Berman and Maloney.

In view of the foregoing, Applicant respectfully submits that all of the pending claims fully comply with 35 U.S.C. §112 and are allowable over the prior art of record. Reconsideration of the application and allowance of all pending claims is earnestly solicited. Should the Examiner wish to discuss any of the above in greater detail or deem that further amendments should be made to improve the form of the claims, then the Examiner is invited to telephone the undersigned at the Examiner's convenience.

Respectfully submitted,

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